

REMARKS

Claims 1-20 were pending. The applicants amend claims 1, 9, 14, and 16 and cancel claims 5, 6, and 18. Claims 1-4, 7-17, 19, and 20 are presented for examination in light of the amendments and following remarks.

Claims 1-13 were objected to. Claim 1 has been amended to address the noted informality.

Claims 1, 2, 5-8, 10-14, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,893,555 ("Leyland") in view of U.S. Pat. No. 3,817,172 ("Horton"). Claim 1, as amended, recites

wherein the work piece surface to be printed is preheated to a temperature between 80°C and 120°C; and  
wherein the stamping surface is heated to a temperature of between 140°C and 240°C.

and claim 14, as amended, recites

preheating a work piece surface to be printed to a temperature between 80°C and 120°C;  
heating the stamping surface to a temperature between 140°C and 240°C

The examiner concedes that neither Leyland nor Horton disclose preheating a work piece surface to a temperature between 80°C and 120°C.<sup>1</sup> A reference that teaches a broad range does not necessarily make obvious specific parts of that range.<sup>2</sup> Although Leyland describes heating a work piece "above room temperature," this open-ended range is so broad as to encompass a very broad number of possible temperatures. The only range Leyland specifically describes (40°C to 60°C) does not overlap or include the temperature range claimed by the applicants. In addition, this is a temperature range of the chute in which the odometer wheels are disposed rather than a temperature of the wheels themselves.<sup>3</sup>

Moreover, a person of ordinary skill in the art would not have been led to the claimed temperature range by routine optimization. "A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as

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<sup>1</sup> See Office Action mailed April 4, 2008, page 6.

<sup>2</sup> See *In re Baird*, 16 F. 3d 380.

<sup>3</sup> See Leyland, col. 3, lines 60-62.

routine experimentation.<sup>4</sup> The applicants have discovered that heating plastic surfaces to the claimed temperature range enables the use of the reduced stamping surface temperatures claimed with an associated reduction in the possibility of thermal damage to the hot stamping tool and/or the work piece.<sup>5</sup> Although Leyland discloses that pre-heating a plastic substrate allows for increased printing speed,<sup>6</sup> there is no indication of the problem being solved by the applicants was recognized by Leyland. The applicants are also unable to find any indication that adjusting the work piece surface temperature to optimize printing speed and quality as taught by Leyland would lead to the temperature range claimed by the applicants to address a different issue. Horton does not disclose pre-heating a work piece surface. Thus, Leyland and Horton, alone or in combination, do not disclose or make obvious independent claims 1 or 14.

Dependent claims 2, 5-8, 10-13, and 18-20 depend from claim 1 or claim 14 and are allowable over Leyland and Horton for at least the same reasons. Moreover, these dependent claims include additional features not disclosed by Leyland or Horton. For example, claims 2 and 15 recite "adapting a heating power of a work piece surface heater in response to a sensed texture of the work piece surface." Although the examiner asserts that

The combination of Leyland and Morton also teaches wherein preheating the work piece surface comprises adapting a heating power of the heating device in response to a texture of the surface to be printed (Leyland: the "texture" of the surface will dictate how much power is required for heater 44 to heat the work piece to the desired temperature).<sup>7</sup>

the applicants are unable to find any indication that Leyland discloses heating a work piece to a specific desired temperature much less that disclosure of adapting the heating power of Leyland's printing apparatus in response to the texture of the work piece surface to achieve such a desired temperature.

Accordingly, the applicants request that the rejection of claims 1, 2, 5-8, 10-14, and 18-20 as being unpatentable over Leyland in view of Horton be withdrawn.

Claims 3, 9, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leyland in view of Horton as applied to claims 2 and 14 above, and further in view of U.S. Pat.

<sup>4</sup> MPEP 2144.05 citing *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977).

<sup>5</sup> See, e.g., U.S. Pat. App. Pub. No. 2006/0266795, paras. [0010] and [0013].

<sup>6</sup> See, e.g., col. 3, line 63 – col. 4, line 22.

<sup>7</sup> Office Action mailed April 4, 2008, page 5.

No. 2,763,893 ("Hall"). Hall does not disclose or make obvious preheating a work piece surface to a temperature to a temperature between 80°C and 120°C. Rather Hall discloses heating an embossing roller.<sup>8</sup> Thus, Hall does not remedy the deficiencies of Leyland and Horton as discussed above with respect to claims 1 and 14 and Leyland, Horton, and Hall, alone or in combination, do not disclose or make obvious claims 3, 9, 15, and 16 which depend from claim 1 or claim 14.

Moreover, Hall describes using a pyrometer to sense temperature. Claim 3 recites  
sensing the texture of the surface to be printed by means of a sensor; and  
forwarding data indicative of the sensed texture to an evaluation device that  
subsequently adjusts the heating power of the heating device.

and claim 15 recites

adapting a heating power of a work piece surface heater in response to a sensed texture of  
the work piece surface.

Hall discloses sensing the temperature of the heated embossing roller using a pyrometer.<sup>9</sup> The applicants have been unable to find any indication in Hall, Leyland, or Horton of a sensor being used to sense the texture of the surface to be printed (claim 3) or the work piece surface (claim 15).

Accordingly, the applicants request that the rejection of claims 3, 9, 15, and 16 as being unpatentable over Leyland in view of Horton, and further in view of Hall be withdrawn.

Claims 4 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leyland in view of Horton as applied to claims 1 and 14 above, and further in view of U.S. Pat. No. 3,791,290 ("Colledge"). Claims 4 and 17 depend from claims 1 and 14, respectively. Colledge, cited for disclosure of an infrared heater, has not been shown to remedy the deficiencies of Leyland and Horton as discussed above with respect to claims 1 and 14. Accordingly, the applicants request that the rejection of claims 4 and 17 as being unpatentable over Leyland in view of Horton, and further in view of Colledge be withdrawn.

The applicants submit that the application is in condition for allowance and request notice to that effect.

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<sup>8</sup> See, e.g., Hall, col. 4, lines 11-15.

<sup>9</sup> See, e.g., Hall, col. 4, lines 16-34.

Any circumstance in which the applicants have (a) addressed certain comments of the examiner does not mean that the applicants concede other comments of the examiner, (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims, or (c) amended or canceled a claim does not mean that the applicants concede any of the examiner's positions with respect to that claim or other claims.

The applicants attach a Petition for One-Month Extension of Time. The one-month extension of time fee in the amount of \$120 is being paid concurrently on the electronic filing system (EFS) by way of deposit account authorization. Please apply any other charges or credits to deposit account number 06-1050, referencing Attorney Docket No. 02894-729US1.

Respectfully submitted,

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